

WHAT IS CLAIMED IS:

1. A device for detecting a marginal edge and a marking substantially extending in a longitudinal direction of a moving material web, comprising:

at least one optical sensor (4) directed at the material web (13) for scanning the web (13) transversely to the moving direction;

at least one first light source (6) associated with the optical sensor (4) and being directed at an area (24) on the material web so that the sensor (4) exclusively detects light (14) reflected by the material web (13) in a diffused manner; and

at least one second light source (7) associated with the optical sensor (4) for emitting diffused light (22), wherein the first light source and the second light source can be alternately employed.

2. The device according to claim 1, wherein the second light source (7) emitting diffused light comprises at least one diffuser disk (9).

3. The device according to claim 2, wherein the optical sensor (4) and the first and second light source (6, 7) are terminated by a common, transparent cover (3), said

cover having a partial area comprising a rough, light scattering surface for forming said diffuser disk (9).

4. The device according to claim 1, wherein the second light source (7) emitting diffused light (2) comprises a plurality of emitters (8) generating light cones (19) overlapping one another.

5. The device according to claim 4, wherein said light cones (19) comprise opening angles (γ) of at least 45° .

6. The device according to claim 1, wherein the first light source (6) generates a light cone (19) with an opening angle (δ) of 60° or less.

7. The device according to claim 1, wherein at least one of the first and second sources (6, 7) comprises at least one light-emitting diode (8).

8. The device according to claim 1, wherein the first and second light sources (6, 7) emit multicolored light.

9. The device according to claim 1, wherein the first and second light sources (6, 7) contain a brightness that can be modulated.

10. The device according to claim 1, wherein the first and second light sources (6, 7) are mixed with each other.

11. The device according to claim 1, further comprising a controlling device actively connected to the first and second light sources (6, 7) for optimizing a contrast between the marking (15) and the material web (13).

12. The device according to claim 1, further comprising a light indicator (25) for projecting a position of the marking (15) located onto the material web (13).

13. A device for detecting the marginal edge and a marking extending in a longitudinal direction of a moving material web, comprising:

at least one optical sensor (4) directed at the material web for scanning the web transversely to the direction (16) of the material web (13);

at least one first light source (6) associated with the sensor (4) and being directed on an area (24) on the material web such that the sensor (4) exclusively detects light reflected by the material web in a diffused manner; and

at least one second light source (7) associated with the sensor (4) for emitting diffused light (22), wherein

the first and second light sources are simultaneously employed.

14. The device according to claim 13, wherein the second light source (7) emitting diffused light (22) comprises at least one diffuser disk (9).

15. The device according to claim 14, further comprising a common transparent cover (3) isolating the optical sensor (4) and the first and second light sources (6, 7), said cover (3) comprising in a part area a rough, light-scattering surface for forming said diffuser disk (9).

16. The device according to claim 13, wherein the second light source (7) emitting diffused light (2) comprises a plurality of emitters (8) for generating light cones overlapping one another.

17. The device according to claim 16, wherein said light cones (19) of said emitters (8) comprise opening angles (γ) of at least 45° .

18. The device according to claim 13, wherein the first light source (6) generates a light cone (19) having an opening angle (β) of 60° or less.

19. The device according to claim 13, wherein at least one of the first and second light sources (6, 7) comprises at least one light-emitting diode (8).

20. The device according to claim 13, wherein the first and second light sources (6, 7) emit multicolored light.

21. The device according to claim 13, wherein the first and second light sources (6, 7) comprise a brightness that can be modulated.

22. The device according to claim 13, wherein the first and second light sources (6, 7) are mixed with each other.

23. The device according to claim 13, further comprising a controlling device actively connected to the light sources (6, 7) for optimizing a contrast between the marking (15) and the material web (13).

24. The device according to claim 13, further comprising a light indicator (25) for projecting a position of the marking (15) located onto the material web (13).